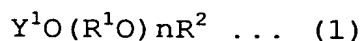


CLAIMS

1. A cement admixture comprising four components of a copolymer (A), an unsaturated (poly)alkylene glycol ether monomer (a), a non-polymerizable (poly)alkylene glycol (B) having no alkenyl group, and a polymer (C) having an oxyalkylene group or a polyoxyalkylene group and a carboxyl group, which is different from the copolymer (A), at ratios of the unsaturated (poly)alkylene glycol ether monomer (a) to the copolymer (A) in a range of 1 to 100% by mass, the non-polymerizable (poly)alkylene glycol (B) having no alkenyl group to the copolymer (A) in a range of 1 to 50% by mass, and the polymer (C), which is different from the copolymer (A), having an oxyalkylene group or a polyoxyalkylene group and a carboxyl group to the copolymer (A) in a range of 1 to 10000% by mass,

wherein the copolymer (A) contains a constituent unit (I) derived from the unsaturated (poly)alkylene glycol ether monomer (a) and a constituent unit (II) derived from a maleic acid monomer (b) at ratios of the constituent unit (I) and the constituent unit (II) in a range of 1% by mass or more, respectively, in the entire constituent units,

and the unsaturated (poly)alkylene glycol ether monomer (a) is represented by the general formula (1):

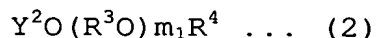


(wherein Y^1 represents an alkenyl group containing 2 to 4 carbon atoms, R^2 represents a hydrogen atom or a hydrocarbon group containing 1 to 30 carbon atoms, R^1O represents one or more species of oxyalkylene groups containing 2 to 18 carbon atoms, and n represents the average molar number of addition of the oxyalkylene groups and is a number of 1 to 500).

2. A cement admixture comprising five components of a copolymer (A1), a copolymer (A2), an unsaturated (poly)alkylene glycol ether monomer (a1), an unsaturated polyalkylene glycol ether monomer (a2), and a non-polymerizable (poly)alkylene glycol (B) having no alkenyl group at ratios of the total amount

of the unsaturated (poly)alkylene glycol ether monomer (a1) and the unsaturated polyalkylene glycol ether monomer (a2) to the total amount of the copolymers (A1) and (A2) in a range of 1 to 100% by mass, the non-polymerizable (poly)alkylene glycol (B) having no alkenyl group to the total amount of the copolymers (A1) and (A2) in a range of 1 to 50% by mass, and the polymer (A2) to the copolymer (A1) in a range of 1 to 10000% by mass, wherein the copolymer (A1) contains a constituent unit (I') derived from the unsaturated (poly)alkylene glycol ether monomer (a1) and a constituent unit (II) derived from a maleic acid monomer (b) at ratios of the constituent unit (I') and the constituent unit (II) in a range of 1% by mass or more, respectively, in the entire constituent units,

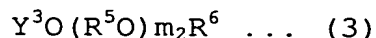
the unsaturated (poly)alkylene glycol ether monomer (a1) is represented by the general formula (2):



(wherein Y^2 represents an alkenyl group containing 2 to 4 carbon atoms, R^4 represents a hydrogen atom or a hydrocarbon group containing 1 to 30 carbon atoms, R^3O represents one or more species of oxyalkylene groups containing 2 to 18 carbon atoms, and m_1 represents the average molar number of addition of the oxyalkylene groups and is a number of 1 to 100),

the copolymer (A2) contains a constituent unit (I'') derived from the unsaturated polyalkylene glycol ether monomer (a2) and a constituent unit (II) derived from a maleic acid monomer (b) at ratios of the constituent unit (I'') and the constituent unit (II) in a range of 1% by mass or more, respectively, in the entire constituent units, and

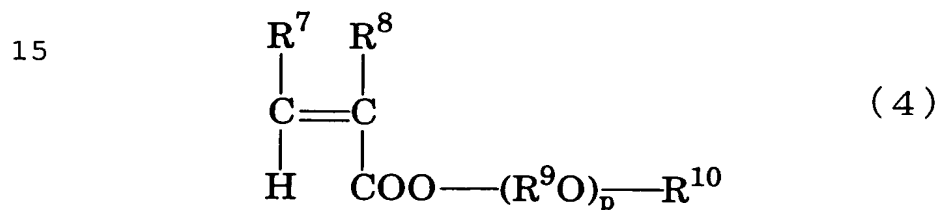
the unsaturated polyalkylene glycol ether monomer (a2) is represented by the general formula (3):



(wherein Y^3 represents an alkenyl group containing 2 to 4 carbon atoms, R^6 represents a hydrogen atom or a hydrocarbon group containing 1 to 30 carbon atoms, R^5O represents one or more species of oxyalkylene groups containing 2 to 18 carbon atoms, and m_2

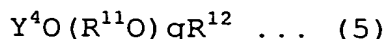
represents the average molar number of addition of the oxyalkylene groups and is a number of 6 to 500, in which $m_2 - m_1 \geq 5$).

- 5 3. The cement admixture according to Claim 1,
 wherein the polymer (C) is a polymer (D) containing a
 constituent unit (IV) derived from a (poly)alkylene glycol
 mono(meth)acrylic acid ester monomer (d) and a constituent unit
 (V) derived from an unsaturated monocarboxylic acid monomer (e)
 10 at ratios of the constituent units (IV) and (V) in a range of
 1% by mass or more, respectively, in the entire constituent units,
 and the (poly)alkylene glycol mono(meth)acrylic acid
 ester monomer (d) is represented by the general formula (4):



- (wherein R^7 and R^8 are the same or different and each represents
 20 a hydrogen atom or a methyl group, R^{10} represents a hydrogen
 atom or a hydrocarbon group containing 1 to 30 carbon atoms,
 R^9O represents one or more species of oxyalkylene groups
 containing 2 to 18 carbon atoms, and p represents the average
 molar number of addition of the oxyalkylene groups and is a number
 25 of 1 to 500).

4. The cement admixture according to Claim 1,
 wherein the polymer (C) is a polymer (E) containing a
 constituent unit (VI) derived from an unsaturated (poly)alkylene
 glycol ether monomer (f) and a constituent unit (II) derived
 30 from a maleic acid monomer (b) at ratios of the constituent units
 (VI) and (II) in a range of 1% by mass or more, respectively,
 in the entire constituent units,
 and the unsaturated (poly)alkylene glycol ether monomer
 35 (f) is represented by the general formula (5):



(wherein Y^4 represents an alkenyl group containing 5 to 8 carbon atoms, R^{12} represents a hydrogen atom or a hydrocarbon group containing 1 to 30 carbon atoms, $R^{11}O$ represents one or more species of oxyalkylene groups containing 2 to 18 carbon atoms, and q represents the average molar number of addition of the oxyalkylene groups and is a number of 1 to 500).

5. The cement admixture according to Claim 1,
 wherein the oxyalkylene group composing the non-polymerizable (poly)alkylene glycol (B) having no alkenyl group is one or more species of oxyalkylene groups containing 2 to 18 carbon atoms, and the terminal group of the non-polymerizable (poly)alkylene glycol (B) having no alkenyl group is a hydrogen atom, an alkyl group or an (alkyl)phenyl group containing 1 to 30 carbon atoms.

6. The cement admixture according to Claim 2,
 wherein the oxyalkylene group composing the non-polymerizable (poly)alkylene glycol (B) having no alkenyl group is one or more species of oxyalkylene groups containing 2 to 18 carbon atoms, and the terminal group of the non-polymerizable (poly)alkylene glycol (B) having no alkenyl group is a hydrogen atom, an alkyl group or an (alkyl)phenyl group containing 1 to 30 carbon atoms.

7. The cement admixture according to Claim 3,
 wherein the oxyalkylene group composing the non-polymerizable (poly)alkylene glycol (B) having no alkenyl group is one or more species of oxyalkylene groups containing 2 to 18 carbon atoms, and the terminal group of the non-polymerizable (poly)alkylene glycol (B) having no alkenyl group is a hydrogen atom, an alkyl group or an (alkyl)phenyl group containing 1 to 30 carbon atoms.

8. The cement admixture according to Claim 4,
wherein the oxyalkylene group composing the
non-polymerizable (poly)alkylene glycol (B) having no alkenyl
group is one or more species of oxyalkylene groups containing
5 2 to 18 carbon atoms, and the terminal group of the
non-polymerizable (poly)alkylene glycol (B) having no alkenyl
group is a hydrogen atom, an alkyl group or an (alkyl)phenyl
group containing 1 to 30 carbon atoms.
- 10 9. A cement composition comprising the cement admixture
according to Claim 1, cement and water.
10. A cement composition comprising the cement admixture
according to Claim 2, cement and water.
- 15 11. A cement composition comprising the cement admixture
according to Claim 3, cement and water.
12. A cement composition comprising the cement admixture
20 according to Claim 4, cement and water.